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Human ES cell-derived NPs express key regulatory genes of midbrain development. Semi-quantitative RT-PCR analysis demonstrated the expression of transcripts of key regulatory genes in midbrain and DA neurons development as well as markers of DA neurons within cultures of both undifferentiated and differentiated NPs. Transcripts of OCT4, which is a marker of undifferentiated hES cells, were not expressed by the NPs. The symbols + and - indicate whether the PCR reaction was done with or without the addition of reverse transcriptase.